Advanced SDR Handheld Receiver

AR-DV10

16:40:21
VFO FM 15 YAES 25k
VFO-A 446,500 00
VFO-B 1300,000 00
NSQ:006
◄ A<->B ►

DIGITAL RECEIVER

MENU MODE ● CLR
1 2 3 Oπ
4 5 6 .
7 8 9 0

◄ ENT ►

(Actual Size)

Wide-band Reception 100kHz to 1300MHz

Multi-mode Digital Reception

All-mode Analog Reception

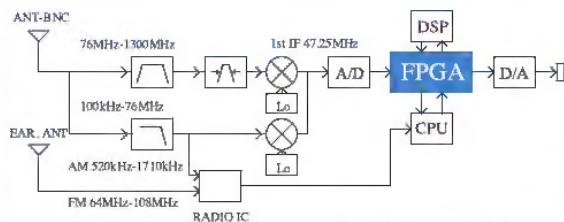Automatic Detection of Digital Modes

100kHz-1300MHz
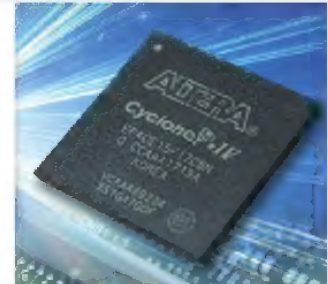SDR DIGITAL RECEIVER

AR-DV10

Wide-band Handheld SDR Receiver
supports variety of Digital & Analog Modes

Digital	C4FM	DMR	P25	TETRA	dPMR	NXDN	DCR	GMSK

Analog	FM	WFM	AM	USB	LSB	CW

AR-DV10

DIGITAL RECEIVER

Advanced SDR Technology Enables Revolutionary Features
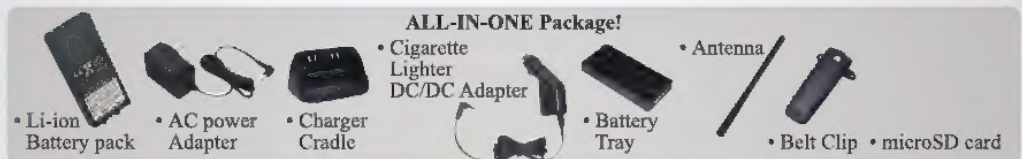
Simplified circuit diagram

Received signals are converted to a super heterodyne 47.25MHz IF signal and then digitized with an A/D converter. Digitized signals are then processed by an Altera Cyclone IV FPGA and an Analog Devices Blackfin DSP for demodulation.

The AR-DV10 superior features such as multi-digital modes reception and auto-detection of digital modes have been made possible thanks to these latest digital processing technologies.

100kHz-1300MHz
SDR DIGITAL RECEIVER
AR-DV10

[Supplied Accessories]
7.4V 2000mAh Li-ion Battery Pack, AC power adapter, Charger Cradle, Cigarette Lighter DC/DC Adapter, 6 × "AA" Battery Tray, Antenna, Belt clip and microSD card included

ALL-IN-ONE Package!

- Li-ion Battery pack
- AC power Adapter
- Charger Cradle
- Cigarette Lighter DC/DC Adapter
- Battery Tray
- Antenna
- Belt Clip
- microSD card

Wideband Reception 100kHz-1300MHz

The AR-DV10 is the world's most advanced wide-band 100kHz-1300MHz, multi-mode, SDR receiver. It supports a variety of digital and analog modes in the Amateur radio bands, Air-band, Marine-band and Commercial bands.

Compatible with numerous Digital modes[1] and Analog mode[2] Reception

The AR-DV10 is capable of receiving analog (CW/SSB/AM/FM) in all the Amateur Radio bands. In addition to the analog modes, the AR-DV10 affords reception of the high-quality audio Amateur Radio C4FM digital, and also the numerous other digital protocols for commercial radio such as DMR and P25.

[1] Available modes: C4FM (V/D mode) / DMR (Tier 1&2) / P25 (Phase-1) / TETRA (Direct Mode) / dPMR (446 Mode) / NXDN / DCR / GMSK
  *Supports only non-encrypted Digital Modes

[2] Available modes: FM/W-FM/AM/USB/LSB/CW

Digital Auto-Mode Feature
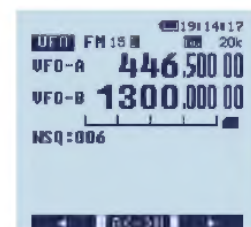## (Automatic mode determination feature)

Thanks to the Digital Auto-Mode feature, a received signal type is instantly recognized and the AR-DV10 is automatically switched to the applicable Digital Mode or the Analog FM mode. This feature enables hassle-free reception without the need manually switch modes.

* T-DM (TETRA) cannot be detected automatically
* FM reception mode is fixed for analog
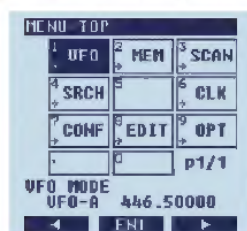
Digital Automatic-Mode-Detection Setup Screen

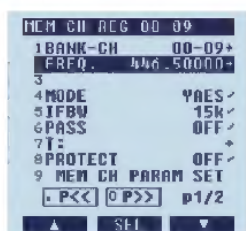Automatic-Mode-Detection Operation Screen

1.7 "×1.7" Large full-dot matrix Display Realizing Intuitive Operation

The large 1.7×1.7-inch full dot matrix display has excellent visibility and it clearly shows the mode and user settings. Menu and Mode selection screens are in a tiled-view for easy selection and intuitive operation is possible. Detailed configuration screens in the set-list view make it easy to understand the listed parameters at a glance, and quickly make settings and adjustments.

Menu Select Screen   Memory Channel Setup Screen

IPX5 Water Resistant Performance

This receiver is built to withstand outdoor environments, sudden rain and splashing water, IPX5 (Can resist a sustained, low-pressure water jet spray)

* Antenna, battery pack, belt clip, and all rubber caps must be firmly attached.

8.3 hours Operating time with supplied High capacity Li-ion Battery

Supplied 2000mAh high capacity Li-ion battery provides over 8.3 hours operating time. Also, the AR-DV10 is ready to operate from multiple power sources, such as the "AA" alkaline batteries and external DC power for convenient outdoor and portable operation.

One-touch Recording

Received audio may be recorded with one-touch of the "REC" button on the front panel. Audio recordings can be selected from a list to play and can easily be saved to the micro SD card as a WAV file. In addition to storing received voice data, the micro SD card can also be used to save memory channels, for data backup and to update the firmware.

One-touch "REC" button

Supported micro SD cards:
- 2GB micro SD card (FAT16 format)
- 4GB to 32GB micro SDHC card (FAT 32 format or cluster size 64KB FAT 16 format)

micro SD card Slot

Mini-USB Data jack for PC interface

A Mini-USB data terminal (Mini-B type Jack) is provided for connection to a personal computer interface for remote control with digital commands.

Mini USB Jack

A variety of Features that support Good Reception

700mW loud audio output
Front speaker with 700mW high volume output provides clear received voice even in noisy environments.

Step adjustment function
With the step adjustment function, even if the channel frequencies are in a special array, the tuning step may be changed with the adjust function, and after that the tuning can match the desired receive frequency according to the set frequency step.

Offset Reception
The offset receive feature may be set to receive a signal with a fixed offset from the receiver frequency. This makes it possible to cope with two-frequency communications that are mutually transmitted at different frequencies, such as a repeater or communication between a base station and a mobile.

Priority Reception
The Priority receive feature permits scanning, searching or monitoring while the AR-DV10 checks a selected priority frequency periodically for activity at a preset interval time. The interval time can be set between 1 and 99 seconds.

Built-in Dedicated circuit for AM/FM broadcasts
Dedicated circuits for AM broadcast (520kHz to 1710kHz) and FM broadcast (64MHz to 107.9999MHz) are combined for broadcast reception. The earphone antenna circuit provides good reception on the FM broadcast band.

Huge 2,000 Channel Memory

The AR-DV10 can store 2,000 memory channels, divided into 40 banks of 50 memory channels each. Alpha tag labels with up to 12 characters may be entered for memory channels and memory banks.

Various Scanning and Search Functions

The AR-DV10 has extensive scanning and search function, for efficiently and comfortably monitoring.

Memory Scan and Bank Link Feature
High speed scan searches the memory channels in the registered memory bank. Scan settings (Pause/Delay Time etc.) can be registered for each situation. Bank link settings can be made to scan multiple memory banks in ten scan group settings. Many Scanning options are possible.

Program Search Function
High speed received signal search, with the specified frequency step, scans between pre-registered upper and lower frequencies. 40 search banks can be set-up with specific upper and lower frequency ranges, and 10 sets of search groups may be stored and recalled for different operating situations.

Valuable Features

- Compact design, Measuring 2.56"(W) × 5.40"(H) × 1.61"(D)
- Selectable IF bandwidth
- AGC (Automatic Gain Control)
- Signal Attenuator
- Frequency Memory csv data upload & download capability
- Alpha-numeric channel name TAG
- CTCSS/DCS function
- Calendar & Clock
- Key Lock

Specifications

Frequency Range	100kHz - 1300MHz * Cellular frequencies blocked for US version	Frequency Stability	±5ppm: +14°F to +122°F (-10°C to +50°C)
Operation Modes	VFO, Memory Channel, Program search, Scan	Sensitivity (Typical Values)	SSB (10dB S/N) 0.3μV AM (10dB S/N) 1.6μV
Digital Receive Modes	C4FM (V/D mode) DMR (Tier 1& Tier 2) P25 (Phase 1) TETRA (Direct mode) dPMR (446 Tier 1) NXDN (6.25k) DCR GMSK * Supports only non-encrypted Digital Modes		FM (12dB SINAD) 0.3μV WFM (12dB SINAD) 2.6μV
		Number of VFOs	3 (A/B/Z)
		Memory Channels	2,000
		Memory Banks	40
		Search Banks	40
		Priority Channel	1
		Pass frequencies	50 per bank or VFO
Analog Receive Modes	WFM, NFM, AM, USB, LSB, CW	Audio Output	700mW (@16Ω 10%THD): Internal Speaker 200mW (@8Ω 10%THD): Earphone jack
Circuit Type	100kHz-1300MHz Single Superheterodyne IF 47.25MHz SDR Direct sampling WFM (64MHz~108MHz) SDR Direct conversion AM (520kHz~1710kHz) SDR Direct conversion	Antenna	BNC 50Ω or Earphones antenna for FM (64MHz - 107.99999MHz)
		Max. Antenna Input	0dBm
		Power Requirements	7.4V 2,000mAh Li-ion Battery
		External input	6.5V - 10.5V
IF Filter Bandwidth	Digital Modes: 6kHz, 15kHz, 30kHz (auto-select) Analog Modes: 100kHz,30kHz, 15kHz, 8kHz, 6kHz, 5.5kHz, 3.8kHz, 2.6kHz, 1.8kHz, 500Hz, 200Hz (Choice is mode dependent)	Current consumption	240mA (typ)/500mA (max) * Excluding battery pack charge current
		Dimensions	Approx. 2.56"(W) × 5.40"(H) × 1.61"(D) * Including Battery, Excluding knob and Antenna
Additional Functions	AGC, Step-adjust, Offset and Priority Receive	Weight	Approx. 14.8oz (Including Battery Pack, Antenna and Belt clip)
Signal Attenuator	Approx. 10dB ON/OFF		
Squelch Modes	Noise squelch, Level squelch, Reverse Tone, Tone squelch, DCS, Digital Voice Detection	Operating Temperature Range	+14°F to +122°F (-10°C to +50°C)

* Specifications are subject to change, in the interest of technical improvement, without notice or obligation.

* All product names referenced herein are trademarks or registered trademarks of their respective manufacturers. Marks such as ™ and ® symbols are omitted in the body of the text.

Options

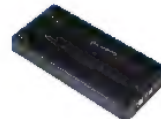|						
SBR-12LI Li-ion Battery Pack (7.4V 2000mAh)	**SAD-23** AC Adapter (Battery Charger)	**SBH-11** Charger Cradle	**SDD-12** Cigarette Lighter DC/DC Adapter	**SBT-12** Alkaline Battery Tray (6×"AA")	**SRA-18A** Antenna	**SHB-11** Belt clip

About this brochure: We have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time in equipment, optional accessories, specifications, model numbers, and availability. Precise frequency ranges may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.